UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
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OFFICE OF ENVIRONMENTAL CLEANUP
EMERGENCY RESPONSE UNIT

Site Specific Sampling Plan

Project Name: Burlington Hill Site ID: 10ZZ

Author: Julie Wroble, OEA Company: EPA . Date Completed: 9/24/12

This Site Specific Sampling Plan (SSSP) is prepared and used in conjunction with the Quality Assurance Plan (QAP) for the Emergency Response Unit for collecting samples during this Removal Program project. The information contained herein is based on the information available at the time of preparation. As better information becomes available, this SSSP will be adjusted.

When inadequate time is available for preparing the SSSP in advance of the sampling event, a Field Sampling Form may be prepared on-site immediately prior to sampling. This full length version of the SSSP is written after the sampling event and the completed Field Sampling Form attached to it.

1. Approvals

Name, Title	Telephone, Email, Address	Signature
Andy Smith **On-Scene Coordinator**	206/553-1750, smith.andy@epa.gov USEPA , M/S: ECL-116, 1200 Sixth Ave. Suite 900, Seattle, WA 98101	Andrew M. Smith Digitally signed by Andrew M. Smith DN: cn=Andrew M. Smith, o=USEPA, Region X, ou=Emergency Response Unit, email=smith.andy@epa.gov, c=US Date: 2012.10.10 13:23:38 -07'00'
Kathy Parker **ERU Quality Assurance Coordinator**	206-553-0062, parker.kathy@epa.gov USEPA , M/S: ECL-116, 1200 Sixth Ave. Suite 900, Seattle, WA 98101	

I. Project Management and Organization

2. Personnel and Roles involved in the project:

Name	Telephone, Email, Company, Address	Project Role	Data Recipient
Andy Smith	206/553-1750, smith.andy@epa.gov USEPA , M/S: ECL-116, 1200 Sixth Ave. Suite 900, Seattle, WA 98101	On Scene Coordinator	Yes
Julie Wroble	206/553-1079, wroble.julie@epa.gov US EPA, M/S: OEA-095, 1200 Sixth Ave. Suite 900, Seattle, WA 98101	Author of SSSP	Yes
Kathy Parker	206/553-0062, parker.kathy@epa.gov USEPA , M/S: ECL-116, 1200 Sixth Ave. Suite 900, Seattle, WA 98101	EMP Quality Assurance Coordinator	No
Mark Woodke	206/624-9537, mwoodke@ene.com Ecology and Environment, Inc. 720 Third Ave., Suite 1700 Seattle, WA 98104	START Quality Assurance Reviewer	Yes

Gerald Dodo	360/871-8728, dodo.gerald@epa.gov Manchester Environmental Laboratory 7411 Beach Drive E., Port Orchard, WA 98366	Laboratory contact	No
Jennifer Crawford	206/553-6261 crawford.jennifer@epa.gov US EPA, M/S: OEA-095, 1200 Sixth Ave. Suite 900, Seattle, WA 98101	RSCC	No
Charles LaCerra	856/303-2500 ext. 2540 clacerra@emsl.com EMSL Analytical, Inc. 200 Route 130 North Cinnaminson, NJ 08077	Laboratory contact	No

3. Physical Description and Site Contact Information:

Site Name	Burlington Hill	
Site Location	Burlington, WA	
Property Size	TBD	
Site Contact	TBD	**Phone Number:**
Nearest Residents	On Site	**Direction:**
Primary Land Uses Surrounding the Site	Residential	

4. The proposed schedule of project work follows:

Activity	Estimated Start Date	Estimated Completion Date	Comments
SSSP Review/Approval	9/24/12	9/26/12	
Mobilize to / Demobilize from Site	9/26/12	9/26/12	
Sample Collection	9/26/12	9/26/12	
Laboratory Sample Receipt	10/3/12	10/4/12	
Laboratory Analysis	10/4/12	10/18/12 11/21/12	For the Subcontract Laboratory For MEL
Data Validation	10/19/12	10/20/12	

5. Historical and Background Information

Describe briefly what you know about the site that is relevant to sampling and analysis for this investigation.

The Burlington Hill site is a residential development built in close proximity to the former Asbestos-Talc Products of Washington, Inc. One resident raised a concern about potential exposures to asbestos in the community. EPA is conducting opportunistic and reconnaissance sampling at targeted locations to verify the presence of asbestos.

6. Conceptual Site Model

Example: Contaminant: Mercury
Transport Mechanism: vapor moving on air currents
Receptors: people living in the house

Contaminants: Asbestos
Transport Mechanisms: Windblown Dust, Soil Disturbance
Receptors: Residents using their properties, road maintenance workers, site visitors

7. Decision Statement

Examples: 1) Determine whether surface contamination exceeds the established action level;
2) Determine appropriate disposal options for contaminated materials.

The decision(s) to be made from this investigation is/are to:
Determine whether asbestos is present on residential properties and public access areas (e.g., roadways). If asbestos is present, EPA may take on additional characterization and assessment activities to characterize the potential exposures and risks to residents.

8. Action Level

State the analyte, concentration, and units for each selected action level. Describe the rationale for choosing each action level and its source (i.e. MTCA, PRG, ATSDR, etc.) Example: The action level for total mercury in soil is 6.7 mg/kg (from Regional Screening Level residential).

Asbestos may pose a risk in air even if soils are nondetect; however, historical information and recent sampling indicate that asbestos is likely to be detected in samples collected by EPA. Risks from exposures to asbestos cannot be assessed without air data, which will not be collected as part of this focused investigation.

II. Data Acquisition and Measurement Objectives

9. Site Diagram and Sampling Areas

A Sampling Area is an area within in which a specific action will be performed.
Examples : 1) Each drum on the site is a Sampling Area;
2) Each section of sidewalk in front of the residence is a Sampling Area;
3) Each sampling grid section is a Sampling Area.

Decision areas will be determined in the field at the direction of the OSC. Sampling areas in clued residential yards and road cuts.

10. The Decision Rules

These can be written as logical If…, Then.. statements. Describe how the decisions will be made and how to address results falling within the error range of the action level. Examples: 1) In the Old Furnace Sampling Area, the soil in the area around the furnace structure will be excavated until sample analysis with XRF shows no mercury concentrations in surface soil above the lower limit of the error associated with the action level, 18.4 mg/kg. 2) If the concentrations of contaminants in a SA are less than the lower limit of the error associated with the action level, then the area may be characterized as not posing an unacceptable risk to human health or the environment and may be dismissed from additional RP activities. The area may be referred to other Federal, State or Local government agencies.

The following statement(s) describe the decision rules to apply to this investigation:

1) If asbestos samples from soils/rocks at the site are non-detect, additional characterization may be performed.
2) If asbestos is found, then additional characterization may be performed to assess site-related risks.

11. Information Needed for the Decision Rule

What information needs to be collected to make the decisions – this includes non-sampling info as well: action levels, climate history, direction of water flow, etc. Examples: Current and future on-site and off-site land use; wind direction, humidity and ambient temperature; contaminant concentrations in surface soil.

The following inputs to the decision are necessary to interpret the analytical results:
none

12. Sampling and Analysis

For each SA, describe:

1. *sampling pattern (random, targeted, scheme for composite)*
2. *number of samples, how many to be collected from where, and why*
3. *sample type (grab, composite)*

4. matrix (air, water, soil)
5. analytes and analytical methods
6. name and locations of off-site laboratories, if applicable.

Nine targeted grab samples of soil and rock will be collected and analyzed by EMSL for Asbestos by CARB 435 with field of view if needed.
Six rock samples will be collected and analyzed by MEL using PLM (CARB 435), SEM and XRD.

13. Applicability of Data (place an X in front of the data categories needed, explain with comments)

Do the decisions to be made from the data require that the analytical data be:
1) definitive data, 2) screening data (with definitive confirmation) or 3) screening data (without definitive confirmation)?

_____***A) Definitive data*** *is analytical data of sufficient quality for final decision-making. To produce definitive data on-site or off-site, the field or lab analysis will have passed full Quality Control (QC) requirements (continuing calibration checks, Method Detection Limit (MDL) study, field duplicate samples, field blank, matrix spikes, lab duplicate samples, and other method-specific QC such as surrogates) AND the analyst will have passed a Precision and Recovery (PAR) study AND the instrument will have a valid Performance Evaluation sample on file. This category of data is suitable for:* ***1) enforcement purposes, 2) determination of extent of contamination, 3) disposal, 4) RP verification or 5) cleanup confirmation.***
Comments:

_ ____***B) Screening data with definitive confirmation*** *is analytical data that may be used* ***to support preliminary or intermediate decision-making*** *until confirmed by definitive data. However, even after confirmation, this data is often not as precise as definitive data. To produce this category of data, the analyst will have passed a PAR study to determine analytical error AND 10% of the samples are split and analyzed by a method that produced definitive data with a minimum of three samples above the action level and three samples below it.*
Comments:

___X___***C) Screening data*** *is analytical data which has not been confirmed by definitive data. The QC requirements are limited to an MDL study and continuing calibration checks. This data can be used for making decisions:* ***1) in emergencies, 2) for health and safety screening, 3) to supplement other analytical data, 4) to determine where to collect samples, 5) for waste profiling, and 6) for preliminary identification of pollutants****. This data is not of sufficient quality for final decision-making.*
Comments: **Initial samples collected will provide screening data**.

14. Special Sampling or Analysis Directions

Describe any special directions for the planned sampling and analysis such as additional quality controls or sample preparation issues. Examples: 1) XRF and Lumex for sediment will be calibrated before each day of use and checked with a second source standard. 2) A field blank will be analyzed with each calibration to confirm the concentration of non-detection. 3) A Method Detection Limit determination will be performed prior to the start of analysis so that the lower quantitation limit can be determined. 4) If particle size is too large for accurate analyses, the samples will be ground prior to analysis. If the sample contains too much moisture for accurate analyses, the sample will be decanted and air dried prior to analysis.

The laboratory may determine additional processing steps, including matrix reduction, to eliminate interference from organic material or non-asbestos minerals such as carbonates.

15. Method Requirements

[Describe the restrictions to be considered in choosing an analytical method due to the need to meet specific regulations, policies, ARARs, and other analytical needs. Examples: 1) Methods must meet USEPA Drinking Water Program requirements. 2) Methods must achieve lower quantitation limits of less than 1/10 the action levels.3) Methods must be performed exactly as written without modification by the analytical laboratory.]

none

16. Sample Collection Information

[Describe any activities that will be performed related to sample collection]

The applicable sample collection Standard Operating Procedures (SOPs) or methods will be followed and include:
Field Activity Logbook SOP
Sample Packaging and Shipping SOP
Sampling Equipment Decontamination SOP
Soil Sampling SOP
Instrument SOPs:
Other SOPs:

17. Optimization of Sampling Plan (Maximizing Data Quality While Minimizing Time and Cost)

[Describe what choices were made to reduce cost of sampling while meeting the needed level of data quality. Example: The XRF will be used in situ whenever possible to achieve accurate results. Reproducibility and accuracy of in situ XRF analyses will be checked by collecting, air drying, analyzing and comparing five in situ samples at the start of sampling. Where interferences are suspected, steps will be taken to eliminate the interferences by mechanisms such as drying, grinding or sieving the samples or analyzing them using the Lumex with soil attachment.]

none

III. Assessment and Response

A Sample Plan Alteration Form (SPAF) will be used to describe project discrepancies (if any) that occur between planned project activities listed in the final SSSP and actual project work. The completed SPAF will be approved by the OSC and QAC and appended to the original SSSP.

A Field Sampling Form (FSF) may be used to capture the sampling and analysis scheme for emergency responses in the field and then the FSF pages can be inserted into the appropriate areas of the final SSSP.

Corrective actions will be assessed by the sampling team and others involved in the sampling and a corrective action report describing the problem, solution, and recommendations will be forwarded to the OSC and the ERU QAC.

IV. Data Validation and Usability

The sample collection data will be entered into Scribe and Scribe will be used to print lab Chains of Custody. Results of field and lab analyses will be entered into Scribe as they are received and uploaded to Scibe.net when the sampling and analysis has been completed.

18. Data Validation or Verification will be performed by:

ERU's general recommendation on validation is that a minimum of CLP-equivalent stage IIA verification and validation be performed for every SSSP involving laboratory analyses. However, stage IIB is preferred if the lab can provide it. Dioxins should be validated at CLP-equivalent stage 4.

	Data Verification and Validation Stages						
Performed by:	I	IIA	IIB	III	IV	Verification	Other:
E and E QA Reviewer							
TechLaw QA Reviewer							
EPA Region 10 QA Office							
MEL staff							
Other: EPA Risk Assessor						100%	

The format for sample number identification is summarized in Table 1. Sample collection and analysis information is summarized in Table 2.

Table 1
SAMPLE CODING

Project Name: _____Burlington Hill_____ **Site ID:** _10ZZ_

SAMPLE NUMBER [1]		
Digits	**Description**	**Code (Example)**
1,2,3,4	Year and Month Code	1209
5,6,7,8	Consecutive Sample Number (grouped by SA as appropriate)	0101

SAMPLE NAME / LOCATION ID [2] ***(Optional)***		
1,2	Sampling Area	BG – Background DR – Drum LF – Landfill MW – Monitoring Well RS – Rinsate SI – Surface Impoundment TB – Trip Blank TK – Tank WL – Wetland WP – Waste Pile
3,4	Consecutive Sample Number	01 – First sample of Sampling Area
5,6	Matrix Code	AR – Air GW – Groundwater PR – Product SB – Subsurface Soil SD – Sediment SS – Surface Soil SW – Surface Water QC – Quality Control WT – Water
7,8	Depth (Optional)	01 (feet below ground surface)

Notes:
(1) The Sample Number is a unique, 8-digit number assigned to each sample.
(2) The Sample Name or Location ID is an optional identifier that can be used to further describe each sample or sample location.

Table 2. Sampling and Analysis

Data Quality	Sampling Area	Matrix	Sampling Pattern	Sample Type	Data Quality	Number of Field Samples	Analyte or Parameter	Method Number	Action Level	Method Quant. Limit	#/type of Sample Containers per Sample	Preservative	Hold Time	Field QC
Lab Analysis	Residential Yards, Road Cuts, Former Quarry	Soil or Rocks	Targeted	Grab	Screening	9	Asbestos	CARB 435	NA	0.25%	1 x 8-oz. glass jar or larger	N/A	N/A	N/A
Lab Analysis	Residential Yards, Road Cuts, Former Quarry	Soil or Rocks	Targeted	Grab	Screening	6	Asbestos	CARB 435, SEM, XRD	NA	0.25%	ziplocking bag	N/A	N/A	N/A

Note: For matrix spike and/or duplicate samples, no extra volume is required for air (unless co-located samples are collected), oil, product, or soil samples except soil VOC or NWTPH-Gx samples (triple volume). Triple volume is also required for organic water samples (double volume for inorganic).